APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R001755320002-6"

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L 30079-66 EWT(1)
ACC NR: AP6020630 SOURCE CODE: UR/0377/65/000/005/0005/0010

AUTHOR: Akchurin, R. Kh.; Aparisi, R. R.; Kolos, Ya. G.; Teplyakov, D. I.; Shatov, N. I.; Shchegolev, D. M. (Deceased)

ORG: State Scientific-Research Power Engineering Institute im. G. M. Krzhizhanovskiy (Gosudarstvennyy nauchno-issledovatel'skiy energeticheskiy institut)

TITLE: Two-mirror solar stand of the ENIN

SOURCE: Geliotekhnika, no. 5, 1965, 5-10

TOPIC TAGS: photoelectric detection equipment, actinometry

ABSTRACT: A combined two-mirror heliostat-containing solar stand was constructed in 1961-1962 at the testing area of the ENIN. The paper gives a detailed engineering description of the stand as a whole and of its various components (the mirrors, heliostat, reducing gears, photoelectric tracking sensors, vacuum system, and actinometric mechanism). The stand is presently in satisfactory operation. [The specific uses and results are not given.] Orig. art. has: 7 figures. [JPRS]

SUB CODE: 03, 09 / SUBM DATE: 13Jan65 / ORIG REF: 003

Card 1/1

APARISI, R.R.; KOLOS, Ya.G.; TEPLYAKOV, D.I.

Calorimetric studies of high-temperature solar engineering units. Geliotekhnika no.6:25-31 '65. (MIRA 19:1)

1. Gosudarstvennyy nauchno-issledovatel'skiy energeticheskiy institut imeni Krzhizhanovskogo.

L 33671-66 EWT(1) JKT

ACC NR: AP6014073 SOURCE CODE: UR/0294/66/004/002/0255/0260

AUTHOR: Zakhidov, R. A.; Teplyakov, D. I. 44 B

ORG: Power Institute im. G. M. Krzhizhanovskiy (Energeticheskiy institut)

TITLE: The thermal regime in hollow radiation receivers in mirror type solar units, on the basis of structural concepts

SOURCE: Teplofizika vysokikh temperatur, v. 4, no. 2, 1966, 255-260

TOPIC TAGS: solar radiation absorption, thermodynamic calculation, radiation receiver

ABSTRACT: The article presents a new method for calculation and measurement of the distribution of radiation falling on the walls of a volumetric receiver placed near the focal point of a parabolic concentrator. Experimental results are worked up for application to hollow cylindrical receivers, with the aim of optimizing their thermal operating conditions. The article first considers mathematically the relation between the axial and radial fluxes and the structure of the radiation field. This analysis is illustrated by a figure. In the experimental section of the article, a table gives the basic dimensions

UDC: 535.211

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L 33671-66

ACC NR: AP6014073 O

and characteristics of two concentrators, including the parameters of the energy distribution in the focal plane. A figure shows the determination of the radial components of the radial vector according to results obtained for mirrors with diameters of 1.55 and 0.915 meters. Orig. art. has: 10 formulas, 3 figures and 1 table.

SUB CODE: 20/ 03/ SUBM DATE: 08Jun65/ ORIG REF: 007/ OTH REF: 002

Card 2/2 mc

L 36351-66 EWT(1)

ACC NR: AP6017582 (A) SOURCE CODE: UR/0377/65/000/006/0025/0031

AUTHOR: Aparisi, R. R.; Kolos, Ya. G.; Teplyakov, D. I.

ORG: State Scientific Research Power Engineering Institute im. G. M. Krzhizhanovskiy (Gosudarstvennyy n.-i. energeticheskiy institut)

TITLE: Calorimetric investigation of high temperature solar installations

SOURCE: Geliotekhnika, no. 6, 1965, 25-31

TOPIC TAGS: solar furnace, calorimetry, solar power plant

ABSTRACT: The authors point out first that calorimetry under natural conditions is one of the best methods of experimentally investigating the radiant heat exchange in solar-power installations with mirror concentrators. The advantages of this method over others are outlined. This is followed by description of several types of calorimeters developed and used at ENIN, with emphasis on a water calorimeter designed for calorimetry of the focal image of a mirror with direct tracking of the sun (Fig. 1). Various modifications of these calorimeters and the differences in their efficiency and productivity are briefly discussed. The effect of the calorimeter diaphragm diameter on the measured radiant flux is estimated. Orig. art. has; 5 figures and 1 formula.

Card 1/2

TEPLYAKOV, G. M.

TEPLYAKOV, G. M. --"From the History of the Origin of the Moscow School of Physicists (R. A. Kolli and P. A. Zilov)." *(Dissertations For Degrees In Science and Engineering Defended At USSR Higher Educational Institutions). (34). Min Edcuation RSFSR, Moscow Oblast Inst. Moscow, 1955

SO: Knizhnaya Letopis', No. 34, 20 August 1955

* For the Degree of Candidate in Phsicomathematical Sciences

TEPLYAKOV, G.V.

Efficiency promoters of the Kharkov Commercial Machinery Plant. (MLRA 10:3)
Izobr. v SSSR 1 no.5:39 N '56.
(Kharkov—Machinery industry)

BOYKO, Ivan Alekseyevich; TEPLYAKOV, G.V., red.

[Svyatogorsk; a brief study on its history and local lore] Sviatogorsk; kratkii istoriko-kraevedcheskii ocherk. Khar'kov, Stalinskoe obl.izd-vo, 1959. 105 p. (MIRA 13:2)
(Svyatogorsk--History) (Svyatogorsk--Economic conditions)

VLASENKO, Petr Ignat'yevich; TEPLYAKOV, G.V., red.; TIMOSHEVSKAYA, A.A., tekhn. red.

[Lofty initiative] Krylatyi pochin. Donetsk, Donetskoe knizhnoe izd-vo, 1963. 49 p. (MIRA 16:12)

1. Sekretar' Chistyakovskogo gorodskogo komiteta Kommunisticheskoy partii Ukrainy (for Vlasenko).
(Donets Basin--Coal mines and mining--Technological innovations)

SOV/109-3-12-12/13

AUTHOR: Teplyakov, I.M.

TITLE: Suppression of a Weak Signal by the Strong Signal During Amplitude Modulation (Podavleniye slabogo signala sil'nym pri amplitudnoy modulyatsii)

PERIODICAL: Radiotekhnika i Elektronika, 1958, Vol 3, Nr 12, pp 1520 - 1523 (USSR)

ABSTRACT: It is assumed that an ideal half-wave detector can be described by the equivalent equation:

$$I = -\frac{\alpha}{2\pi}\int_C \frac{1}{z^2}\, e^{iuz}dz \qquad (1)\ .$$

If the input signal is in the form:

$$U = U_c\,(1 + m\cos\Omega t)\cos\omega_c t + U_{пг}\cos\omega_{пг} t$$

where U_c is the amplitude of the desired signal and $U_{пг}$ is the perturbing signal it can be shown that the amplitude of the modulating frequency in the envelope is

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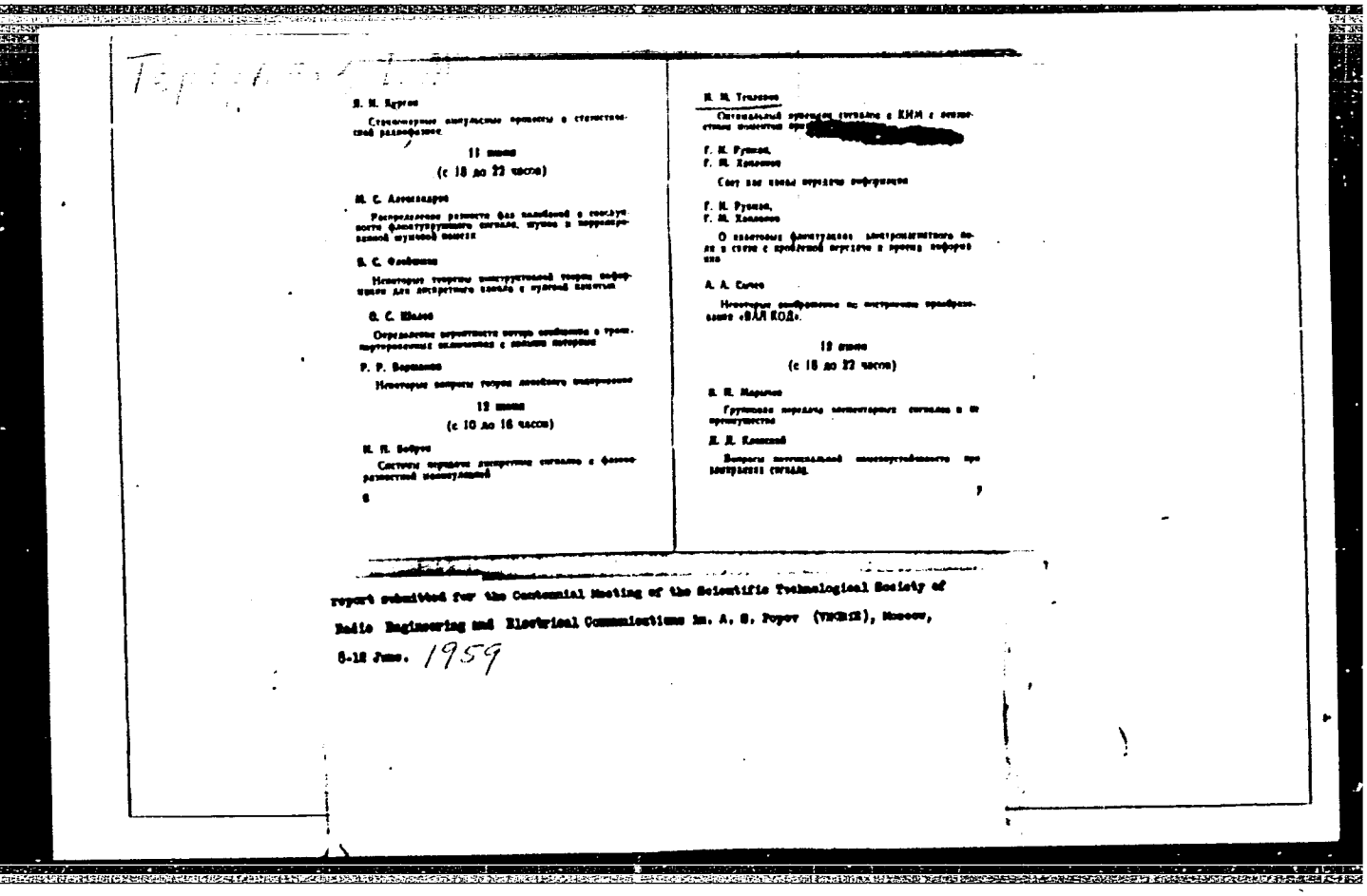
given by Eq (4); h in Eq (4) denotes the ratio of the useful signal to the perturbing signal, m is the modulation index and F is a hypergeometric function. If the coefficient of suppression of the modulating frequency is defined as the ratio of the envelope amplitude in the presence of the perturbation to the amplitude in the absence of the perturbing signal, the coefficient can be expressed by Eq (5). The above formulae are valid for $h \leqslant 1$ or for h greater than 1. In general, the amplitude of the modulation envelope can be expressed in the form of the first equation on p 1523, so that the modulation suppression coefficient is given by Eq (6). The results of the analysis are shown graphically in the

Suppression of a Weak Signal by the Strong Signal During Amplitude Modulation

figure on p 1522; the Curve 2 of the figure was evaluated from Eq (6). There are 1 figure and 7 references, 4 of which are English and 3 Soviet.

SUBMITTED: March 16, 1957

Card 3/3



Report submitted for the Centennial Meeting of the Scientific Technological Society of Radio Engineering and Electrical Communications im. A. S. Popov (NTORES), Moscow, 8-12 June. 1959

[illegible]

Эффективность и помехоустойчивость [illegible] методов двукратной передачи сигналов

[illegible]

Помехоустойчивость приемника по схеме Шоу

2. СЕКЦИЯ АНТЕННЫХ УСТРОЙСТВ

Руководитель А. Р. Вольперт

9 июня

(с 10 до 16 часов)

В. Д. Кузнецов

Вопросы проектирования передающих антенн для телевидения в УКВ вещания.

А. М. Модель.
Е. А. [illegible]

Антенно-волноводный тракт для радиорелейных линий, использующих рассеяние радиоволн в тропосфере

В. К. Парамонов

Антенна для линий связи с использованием [illegible] ионосферного рассеяния

[illegible]

[illegible] антенны бегущей волны

А. А. [illegible]

Исследование [illegible] для радиорелейных линий

9 июня

(с 16 до 22 часов)

[illegible]
[illegible]
[illegible]

К вопросу о влиянии [illegible] на диаграмму направленности излучателя, расположенного [illegible]

В. А. Каплун

О влиянии [illegible] на диаграмму направленности антенны

[illegible]

Некоторые случаи рассеяния радиоволн [illegible]

[illegible]

Дифракция электромагнитных волн на [illegible]

[illegible]

Возбуждение [illegible]

report submitted for the Centennial Meeting of the Scientific Technological Society of Radio Engineering and Electrical Communications im. A. S. Popov (VNORiE), Moscow, 8-12 June. 1959

S/106/60/000/001/003/005
A056/A126

6,4400

AUTHOR: Teplyakov, I. M.

TITLE: Perturbation of stability in receiving sets of pulsed signals with amplitude detector

PERIODICAL: Elektrosvyaz', no. 1, 1960, 23 - 31

TEXT: The author examines the application of linear filters, by the use of which there are no losses of information. The amplitude-frequency characteristic of such filters is constituted by a complex range associated with the signal emitted. With the addition of a synchronized linear detector, those filters form an ideal receiving set. The broadening of the VHF band lessens the ratio signal/noise at the detector input, when the signal power remains unchanged, and gives consequently an attenuation of weak signals. Further, the author discusses the cumulative method, developing two cases: the transitory signal position is known, and the apparition of the signal is possible in m points (video-channel). The variations of frequency between each impulsion of the signal - variations following a law of hazard - drives to the experimental study of the transmission of impulsions with sound modulation. The author thanks Professor Yu. S. Bykova for her discussion of

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Perturbation of stability in receiving sets of...

B

the results obtained. There are 3 figures and 10 references: 7 Soviet-bloc and 3 non-Soviet-bloc. The references to the English-language publications read as follows: Middleton. "Statistical criteria for detection of pulsed carriers in noise", I, II, J. Appl. Phys. v. 24, no. 4, 1953; Van Meter, Middleton. "Modern statistical approaches to reception in communication theory". Trans IRE on Inf. Theory. PGIT-4, Sept. 1954; Peterson, Birdsall, Fox. "The theory of signal detectability". Trans. IRE on Inf. Theory. PGIT-4, Sept. 1954.

SUBMITTED: March 7, 1959

Card 2/2

TEPLYAKOV, I.M.

Receiver of optimum signals with cathode pulse-modulation and an unknown transition period. Elektrosviaz' 14 no.6:10-13 Je '60. (MIRA 13:7)
(Radio--Receivers and reception)

29393 R
S/108/60/015/001/004/006
B116/B221

6.9200

AUTHOR: Teplyakov, I. M., Member of the Society (see Association)

TITLE: A method of calculating the correlation function at the output of a non-linear system

PERIODICAL: Radiotekhnika, v. 15, no. 1, 1960, 35-37

TEXT: The author shows that for the calculation of the correlation function at the output of a non-linear system it suffices to calculate the spectrum at the output under the influence of only two sinusoidal oscillations if there is normal impulse noise at the input. The steady fluctuation voltage at the output of the non-linear system at the time t is denoted by U; the fluctuation voltage at the time $t + \tau$ is U_τ. According to the definition the correlation function for normal noise is

$$B(\tau) = \overline{UU}_\tau = \sigma^2 R$$

$$= \frac{1}{2\pi\sigma^2\sqrt{1-R^2}} \int_{-\infty}^{\infty}\int_{-\infty}^{\infty} UU_\tau \exp\left[-\frac{U^2 + U_\tau^2 - 2RUU_\tau}{2\sigma^2(1-R^2)}\right] dU\, dU_\tau ,$$

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27393
S/108/60/015/001/004/006
B116/B221

A method of calculating the...

with R denoting the normalized correlation function of the input noise, σ^2 the noise power, $R = \rho \cos \omega_0 \tau$, and ρ the correlation coefficient of the input noise. The given identity is satisfied under the condition

$$U = \sqrt{2}\sigma \cos\left(\frac{\alpha}{2} + \varphi\right), \quad U_\tau = \sqrt{2}\sigma \cos\left(\frac{\alpha}{2} - \varphi\right),$$

with $\cos \alpha = R$. The result is $UU_\tau = \rho\sigma^2 \cos \omega_0 \tau + \sigma^2 \cos \xi$ (1), with $2\varphi = \xi$ being a random phase, depending on the time in such a way that given by $\widetilde{\cos \xi} = \overline{\cos \xi} = 0$. The equation (1) is the basic equation. It may be assumed that UU_τ consists of two sinusoidal oscillations with the amplitudes $\rho\sigma^2$ and σ^2. It is further assumed that ρ is a slowly changing function in comparison with $\cos \omega_0 \tau$. Therefore the method of the slowly changing amplitudes may be used. After passing through of two sinusoidal oscillations $\rho\sigma^2 \cos\omega_0 \tau + \sigma^2 \cos \xi$ through the non-linear system, and calculation of the mean value of the output voltage received.

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A method of calculating the...

the desired correlation function of the voltage at the output of the non-linear system is obtained. The constant component at the output of the non-linear system results in the correlation function of the video-spectrum during the passing through of the two sinusoidal oscillations mentioned. The $C_n \cos n\omega_0 \tau$ - components of the spectrum give the correlation functions of the spectral zones around $n\omega_0$. In order to find the spectrum at the output of the non-linear system under the influence of two sinusoidal oscillations, the method may be used which was developed by W. R. Bennett (Ref. 1: "New results in the calculation of modulation products". BSTJ, v. 12, no. 2, 1933) and S. Rays (Ref. 4: "Teoriya fluktuatsionnykh shumov" (Theory of fluctuation noises)) and Sbornik "Teoriya peredachi elektricheskikh signalov pri nalichii pomekh" (Collection "Theory of transmitting electric signals in the presence of impulse noises" 1953). A non-linear system may be given by

$$I = \frac{1}{2\pi} \int_C F(iu) e^{iUu} du ,$$

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A method of calculating the...

where F(iu) and the way of integration are selected according to the non-linear system. The spectrum of the voltage at the output of the non-linear system contains for the input voltage

$$U = P_1 \cos \omega_1 t + P_2 \cos \omega_2 t$$

the constant component

$$\frac{1}{2} A_{oo} = \frac{1}{2\pi} \int_C F(iu)\, J_o(P_1 u)\, J_o(P_2 u)\, du$$

and the component

$$A_{kl} = \frac{i^M}{\pi} \int_C F(iu)\, J_k(P_1 u)\, J_e(P_2 u)\, du$$

of the frequency $k\omega_1 \pm l\omega_2$, where $M = k + l$ and $J_n(z)$ is a Bessel function of n-th order. In the present case, $U = \varrho\, \sigma^2 \cos \omega_o \tau + \sigma^2 \cos \varphi$. If, for detecting the spectrum at the output of the non-linear system, τ denotes

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24393 R
S/108/60/015/001/004/006
B116/B221

A method of calculating the ...

the time, then the actual correlation function B (τ) at the output of the non-linear system will differ by the constant factor α from the formula for the spectrum of two sinusoidal oscillations (after averaging). The factor α may be determined, e.g. as the ratio between the power of the constant component a_o^2 at the output of the non-linear system under the influence of the noise with a power σ^2 and the amplitude of the constant component at the output of the non-linear system under the influence of a sinusoidal oscillation $\sigma^2 \cos\{$ on the system. In the special case, it holds

$a_o = \frac{1}{2\pi} \int_C F(iu)\, e^{-\frac{\sigma^2 u^2}{2}}\, du$. It is pointed out that this method may be extended also to the cases where the non-linear system is influenced by both signal and noise. In this case, however, the calculations are very voluminous. [Abstracter's note: Essentially complete translation.]

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29393 R
S/108/60/015/001/004/006
B116/B221

A method of calculating the ...

There are 5 references: 4 Soviet-bloc and 1 non-Soviet-bloc.

ASSOCIATION: Nauchno-tekhnicheskoye obshchestvo radiotekhniki i elektrosvyazi im. A. S. Popova (Scientific and Technical Society of Radio Engineering and Electrical Communications imeni A. S. Popov) [Abstracter's note: Name of association was taken from first page of journal].

SUBMITTED: June 11, 1958

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21529
S/108/61/016/004/006/006
B107/B212

AUTHOR: Teplyakov, I. M., Member of the Society (see Association)

TITLE: Immunity of an "ShOU" receiver from fluctuation noises

PERIODICAL: Radiotekhnika, v. 16, no. 4, 1961, 72-74

TEXT: This paper has been presented at the anniversary meeting of the NTORiE (Scientific and Technical Society of Radio Engineering and Electrical Communications) in June 1959; this meeting was dedicated to the 100th birthday of A. S. Popov. Earlier investigations of a limiter under the influence of noises dealt with the correlation function, the spectrum at the output of the limiter, and the signal to noise ratio. The present paper deals with the distortion immunity of a pulse signal receiver, for which an "ShOU" circuit is used in order to protect the interval from false counts. The limiter is assumed to be ideal, which is justified if the limiter input-voltage exceeds the limiting threshold considerably. Since the signal amplitude at the limiter is unchanged, the intensity of the noise at the output of the narrow-band filter will decrease in proportional to the spread of the band-width of the filter

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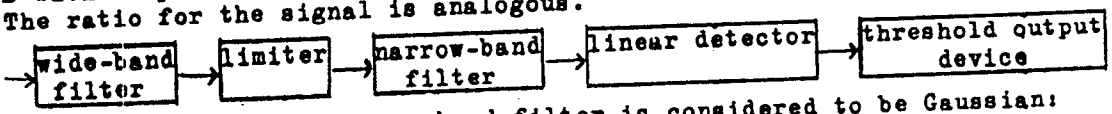
21529
S/108/61/016/004/006/006
B107/B212

Immunity of an "ShOU"...

(it is assumed that the noise intensity at the input of the receiver is evenly distributed within its band-width); for the spectrum width of the noise at the input of the limiter is the same as the width of the first spectral zone behind the limiter. A proper choice of the band-width (with respect to the width of the narrow-band filter) enables one to obtain a noise of wanted intensity at the output of the detector. It is assumed that both filters have a square amplitude-versus-frequency characteristic whose mean frequencies coincide with the carrier frequency of the signal. If the ratio of the wide-band filter width to the narrow-band filter width is equal to B, then it follows from an analysis of the form of the spectrum of the first spectral zone at the limiter output that the noise intensity behind the narrow-band filter will decrease by B with respect to the noise intensity of the first spectral zone. The ratio for the signal is analogous.



The noise behind the narrow-band filter is considered to be Gaussian: In order to construct the curve of the distortion probability of the

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Immunity of an "ShOU"...

signal, it is necessary to know the signal to noise ratio at the detector output and also the absolute value of the signal, because the threshold voltage is fixed and calculated from a given probability of the false count. Now, the signal amplitude at the limiter output is calculated. For a limiter with a characteristic $U_{outp} = 0$ for $U_{inp} < 0$ and with $U_{outp} = a$ for $U_{inp} > 0$, the amplitude of the first harmonic of the signal at the output is found as follows:

$$U_{c\,outp} = U_{c\,max} = \frac{a}{\pi}\int_c \frac{1}{z} J_1(U_c z) e^{-\frac{\psi_0 z^2}{2}}\, dz = \frac{a}{\pi}\sqrt{\pi}\, h F\left(\frac{1}{2}; 2; -h^2\right) =$$

$$= \frac{a}{\pi}\sqrt{\pi}\, h e^{-\frac{h^2}{2}}\left[I_0\left(\frac{h^2}{2}\right) + I_1\left(\frac{h^2}{2}\right)\right]. \qquad (A)$$

where U_c denotes the signal amplitude at the limiter input, ψ_0 the noise intensity at the limiter input, $h^2 = U_c^2/2\psi_0$, c is the path of integration from $-\infty$ to $+\infty$ with a circumvention down and around the origin of coordinates, $J_1(z)$ the first-kind Bessel function, $I_0(x), I_1(x)$ the Bessel

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functions of a purely imaginary argument, and F(a;c;z) a degenerate hypergeometric function. The suppression coefficient K_{Π} of the signal is the ratio of the amplitude of the first harmonic of the signal at the limiter output in the presence of a noise to that in the absence of noise. Apparently

$$K_{\Pi} = \frac{\sqrt{\pi}}{2} h e^{-\frac{h^2}{2}} \left[I_0\left(\frac{h^2}{2}\right) + I_1\left(\frac{h^2}{2}\right) \right]. \qquad (B)$$

For small modulation factors, the expression for K_{Π} coincides with that for the suppression coefficient $K_{\Pi M}$ of the modulation frequency in the envelope of the signal and the noise (Ref. 9: I. M. Teplyakov "Radiotekhnika i elektronika", v. 3, no. 4, 1958). The expressions for K_{Π} and $K_{\Pi M}$ also coincide for any other noises. For the sake of simplicity, it is assumed that the signal amplitude of the first spectral zone behind the limiter is equal to unity. Then, the effective voltage of the first harmonic of the signal is equal to K_{Π}. The noise intensity of the first spectral zone is equal to $1-K_{\Pi}^2$, and the signal to noise ratio

Immunity of an "ShOU"...

in the first spectral zone is equal to $R^2 = K_{\Pi}^2/(1-K_{\Pi}^2)$. For the special case $h^2 \gg 1$, $R^2/h^2 = 2$; for $h^2 \ll 1$, $R^2/h^2 = \pi/4$. If a signal is lacking, then the noise intensity at the detector output will be equal to $1/B$, and the signal to noise ratio equal to R^2B. If the threshold voltage of the output device is U_{Π} (a standard voltage, since it has been assumed that the signal amplitude of the first spectral zone is equal to unity), then it follows for the probability of false count (Ref. 10: B. R. Levin, Teoriya sluchaynykh protsessov i yeye primeneniye v radiotekhnike (Theory of random processes and their application in radio engineering), Izd. "Sovetskoye radio", 1957) that

$$P_{a.cp} = \int_{U_{\Pi}\sqrt{B}}^{\infty} x e^{-\frac{x^2}{2}} dx = e^{-\frac{U_{\Pi}^2 B}{2}}. \qquad (C)$$

From this expression, U_{Π} can be calculated if B and $P_{f.c.}$ are given; and the probability that signal plus noise are smaller than the threshold U_{Π} is determined by a method suggested by Bunimovich (Ref. 8: V.I.Bunimovich,

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Immunity of an "ShOU"...

"Radiotekhnika i elektronika", v. 3, no. 4, 1958). There are 3 figures and 10 references: 5 Soviet-bloc.

ASSOCIATION: Nauchno-tekhnicheskoye obshchestvo radiotekhniki i elektrosvyazi im. A. S. Popova (Scientific and Technical Society of Radio Engineering and Electrical Communications imeni A. S. Popov) [Abstracter's note: Name of association was taken from first page of journal].

SUBMITTED: November 9, 1959

Card 6/6

Teplyakov, I.M.

AID Nr. 977-3 27 May

TRANSMISSION OF INFORMATION BY ORTHOGONAL SIGNALS (USSR)

Teplyakov, I. M. Radiotekhnika, v. 18, no. 4, Apr 1963, 3-7.
S/108/63/018/004/001/008

Under the assumption that all levels of quantization are equally probable, the transmission of quantized functions is investigated for the purpose of ascertaining how such transmission could be realized at the lowest possible average signal power in the presence of Gaussian noise with a uniform power spectrum. A system of equally probable orthogonal signals, which is called an optimum system and which requires a wider channel band but lower signal power in relation to other types of modulation, is compared with the usual pulse code modulation (PCM) system. A series of calculations leads to the conclusions that it is more advantageous to lower signal power and to widen the communication channel band in the optimum than in PCM system. It was

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TRANSMISSION OF INFORMATION [Cont'd] S/108/63/018/004/001/008

found that the lowering of signal power with transition from the binary PCM-FM to the orthogonal signal system can be approximately expressed by dividing 1) the ratio of the signal power required with a given delay to obtain the probability of the distortion of one symbol to the signal power required with an infinite delay in a PCM-FM system by 2) the same ratio in the optimum system.

[DW]

TEPLYAKOV, I.N.

Conference on problems of hydroelectric power plant parameters and on the regulation of flow in complex utilization of rivers. Vest.AN Kazakh.SSR 11 no.7:82-84 Jl'55. (MLRA 8:10)
(Tiflis--Hydroelectric power--Congresses)

[illegible], I. N.

TEPLYAKOV, I. N. -- "Approximate Evaluation of the Losses in the Electrical Power Economy Evoked by Variability of Hydrologic Phenomena," Acad Sci Uzbek SSR, Power Engineering Inst, Tashkent, 1955 (Dissertation For the Degree of Doctor of Technical Sciences)

SO: Knizhnaya letopis', No. 37, 3 September 1955

TEPLYAKOV, I.N.

Approximate value of specific losses in connection with the supplying of electric power to industrial users. Izv.AN Kazakh. SSR.Ser.energ.no.6 134-140 '54. (MLRA 9:4)
(Electric utilities)

SENETSKAYA, L.P.; TEPLYAKOV, M.M.

New photocolorimetric method for the determination of vanadates. Zhur.anal.khim. 16 no.6:731-732 N-D '61. (MIRA 14:12)

1. D.I. Mendeleev Moscow Chemico-Technological Institute.
(Vanadium—Analysis)

3015
S/080/62/035/004/006/022
D267/D301

5.2100

AUTHORS: Davankov, A. B., Laufer, V. M., Bortel', E. and Teplyakov, M. M.

TITLE: Sorption and subsequent desorption of ytterbium and europium on granular ionites in an electric field

PERIODICAL: Zhurnal prikladnoy khimii, v. 35, no. 4, 1962, 769-773

TEXT: The successful application of redox processes for the concentration and desorption of noble metals on granular ionites in an electric field prompted the authors to use these processes in the case of some lanthanides endowed with variable valency. Having chosen Yb and Eu as the elements to be tested, the authors intended first to check the possibility of desorption in the electric field of tervalent cations adsorbed on ionites, and then to try to reduce them to divalent ions and utilize the low solubility of sulphates for the purpose of concentration. Conditions have been studied of extracting and concentrating Eu and Yb from dilute solutions by means of the cationite КУ-2(KU-2), and a method has been

Card 1/2

Sorption and subsequent ...

developed for achieving complete (> 95%) desorption of Eu ions from the adsorbent and for obtaining concentrated solutions of Eu by amalgamation. Yb did not form amalgams with Hg. The method of desorption in the electrical field with the use of a Hg cathode can be used to separate Eu from Yb and other rare-earth elements. Electrochemical desorption of Eu and Yb in the presence of H_2SO_4 solutions as electrolyte did not ensure a complete extraction of these elements. There are 3 figures, 2 tables and 28 references: 18 Soviet-bloc and 10 non-Soviet-bloc. The 4 most recent references to the English-language publications read as follows: K. S. Spiegler, Techn. Rev., 100, 1953, 303; A. H. Creer, A. B. Kindler and V. P. Tevmine, Industr. Engng. Chem., 1958, 166; R. S. Stamberg, J. Seidl and J. Rahm, Polymer Sci., 31, no. 122-123, 1958, 15-24; R. Kunin, Ion exchange resins, New York, 1958.

SUBMITTED: April 13, 1961

Card 2/2

KORSHAK, V. V.; VINOGRADOVA, S. V.; TEPLYAKOV, M. M.;
CHERNOMORDIK, Yu. A.

Interaction between polyether and polyamide in a melt. Dokl.
AN SSSR 147 no.6:1365-1368 D '62. (MIRA 16:1)

1. Institut elementoorganicheskikh soyedineniy AN SSSR i
Moskovskiy khimiko-tekhnologicheskiy institut im. D. I.
Mendeleyeva. 2. Chlen-korrespondent AN SSSR (for Korshak).

(Ethers) (Polyamides)

ACCESSION NR: AP4019009 S/0062/64/000/002/0334/0340

AUTHOR: Teplyakov, M.M.; Korshak, V. V.; Vinogradova, S.V.

TITLE: Investigation of the exchange reaction between a polyamide and a polyarylate

SOURCE: AN USSR. Izv. Seriya khimicheskaya, no. 2, 1964, 334-340

TOPIC TAGS: polyamide polyarylate interaction, interchain reaction, polyamide, polyarylate, polyamide ester, synthesis

ABSTRACT: This is a continuation of a work done by the same authors (Dokl. AN SSR 147, 1365 1962) where they showed the possibility of synthesizing polyamide esters by interchain interaction of initial polyamide macromolecules and a polyester. The present article was prompted by the higher thermal stability and other valuable properties of polyarylates for the production of polyamisoarylates. For this purpose the authors investigated the interchain reactions of polyarylates and polyamides. They selected for their tests the reaction between polyhexamethysebacineamide and polydiphenylpropanesebacinate (a polyester of sebacic acid and 4,4'-dioxy-2,2'-dipehylpropane). Condensation was carried out in test tubes in an inert gas at temperatures from 240 to 280C with and without a catalyst. The selected catalysts were p-toluene stlfoacid, lithium hydroxide, lead oxide, zinc

Card 1/2

ACCESSION NR: AP4019009

acetate, and tetrabutoxy titanium. Most suitable was lead oxide. It enhances lower reaction temperatures (240C) and their rate. The properties of the reaction product depend on the proportion of the initial compounds, temperature and duration of the reaction. Orig. art. has 4 figures, no formulas, 4 tables.

ASSOCIATION: Institut elementoorganicheskikh siyedineniy Akademii nauk SSSR (Institute of Organomelallic Compounds, Academy of Sciences, SSSR); Moskovskiy khimiki-tekhnologicheskiy institut im. D. I. Mendeleyeva (Moscow Chemical-Engineering Institute)

SUBMITTED: 05Sep63 DATE ACQ: 27Mar64 ENCL: 00

SUB CODE: CH NO. REF SOV: 006 OTHER: 001

Card 2/2

APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R001755320002-6"

APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R001755320002-6"

APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R001755320002-6"

TEPLYAKOV, N., arkhitektor

Type SVL-30 fluorescent light. Zhil.-kom. khoz. 11 no.8:30 Ag '61. (MIRA 14:9)

(Fluorescent lighting)

TEPLYAKOV, N. A., Cand Tech Sci -- "On certain photometric features of the winter aerial landscape." Mos, 1961. (Min of Higher and Sec Spec Ed RSFSR. Mos Inst of Engineers of Geodetic Aerophotography and Cartography.) (KL, 8-61, 250)

TEPLYAKOV, N. M.

SOV/4982

International symposium on macromolecular chemistry, Moscow, 1960.

Mezhdunarodnyy simpozium po makromolekulyarnoy khimii SSSR, Moskva, 14-18 iyunya 1960 g.; doklady i avtoreferaty. Sektsiya I. (International Symposium on Macromolecular Chemistry Held in Moscow, June 14-18, 1960; Papers and Summaries. Section I.) [Moscow, Izd-vo AN SSSR, 1960] 346 p. 5,500 copies printed.

Sponsoring Agency: The International Union of Pure and Applied Chemistry, Commission on Macromolecular Chemistry

Tech. Ed.: T. V. Polyakova.

PURPOSE: This collection of articles is intended for chemists and researchers interested in macromolecular chemistry.

COVERAGE: This is Section I of a multivolume work containing scientific papers on macromolecular chemistry in Moscow. The material includes data on the synthesis and properties of polymers, and on the processes of polymerization, copolymerization, polycondensation, and polyrecombination. Each text is presented in full or summarized in French, English, and Russian. There are 47 papers, 28 of which were presented by Soviet, Rumanian, Hungarian, and Czechoslovakian scientists. No personalities are mentioned. References accompany individual articles.

Card 6/9

49

ZIL'BERMAN, Ye.N.; TEPLYAKOV, N.M.

New method of polyester synthesis. Vysokom. soed. 1 no.6:934 Je '59. (MIRA 12:10)
(Chemistry, Organic--Synthesis)

84369
S/106/60/000/006/002/013
A169/A026

9.2550

AUTHOR: Teplyakov, N.M.

TITLE: An Optimum Receiver of Pulse-Code Modulated Signals With Unknown Moment of Arrival

PERIODICAL: Elektrosvyaz', 1960, No. 6, pp. 10 - 13

TEXT: The author discusses the optimum spacing of code pulses, which can consist of a different number of elementary pulses of the duration τ. It is shown that an optimum receiver must consist of a system of filters, which are optimum ones in respect to each of the pulses of the duration τ, 2τ, ...$n\tau$, subtractors and threshold devices. There are 4 figures and 4 Soviet references.

PRESENTED: June 1959, at the Jubilee Session of VNTORiE imeni A.S. Popov

SUBMITTED: October 26, 1959

Card 1/1

Teplyakov, N.M.

82084
S/190/60/002/01/16/021
B004/B061

5.3832

AUTHORS: Zil'berman, Ye. N., Teplyakov, N. M.

TITLE: Synthesis of Polyesters From Dinitriles and Glycols via Polyiminoester Hydrochlorides

PERIODICAL: Vysokomolekulyarnyye soyedineniya, 1960, Vol. 2, No. 1, pp. 133-135

TEXT: The authors previously reported (Refs. 1,2) that the reaction of dinitriles with HCl leads to the formation of the dichlorides of diimmoniumchlorides, which, with equivalent quantities of glycols, form polyiminoester hydrochlorides which give polyesters on hydrolysis. This reaction has not yet been used for producing polymers, and is different from other methods in that it occurs at low temperatures. In this way, polyesters were produced here from dinitriles of adipic-, azelaic-, sebacic-, and p-phenylene diacetic acid with ethylene glycol, butane diol-1,4, and diethylene glycol. The reaction took place at 0°C in ether, dioxane, diisopropyl ether, or β,β'-dichlorodiethyl ether. The

Card 1/2

Synthesis of Polyesters From Dinitriles and Glycols via Polyiminoester Hydrochlorides

S/190/60/002/01/16/021
B004/B061
B208[illegible]

reaction mixture was hydrolyzed after one to two days. The polyesters obtained were analyzed for nitrile- and hydroxyl groups. The data for the compounds obtained are given in a Table. The synthesis of polyethyleneadipinate is described in the experimental part. The other compounds were obtained in the same way. The polyesters had a molecular weight of 1000 - 1700. There are 1 table and 4 Soviet references.

SUBMITTED: October 18, 1959

Card 2/2

ZEMSKOV, I.F., STEPANOV, A.S., TEPLYAKOV, N.M.

Regeneration of activated carbon in the process of removal of mercury vapor and mercury organic compounds from waste gases. Zhur.prikl.khim. 33 no.5:1222-1224 My '60. (MIRA 13:7)

1. Dzerzhinskiy filial Gosudarstvennogo nauchno-issledovatel'skogo instituta promyshlennoy i sanitarnoy ochistki gazov.
(Carbon, Activated) (Gas purification)

ZIL'BERMAN, Ye.N.; IVCHER, T.S.; MEYMAN, S.B.; KULIKOVA, A.Ye.; PEREPLETCHIKOVA, Ye.M.; TEPLYAKOV, N.M.

Formation of 2-cyclohexen-1-one in the dehydrogenation of cyclohexanol. Neftekhimiia 2 no.1:110-114 Ja-F '62. (MIRA 15:5)
(Cyclohexenone) (Cyclohexanol)

ZIL'BERMAN, Ye.N.; KULIKOVA, A.Ye.; TEPLYAKOV, N.M.; RUSHINSKAYA, A.A.

Reactions of mono- and diamines with amide hydrochlorides.
Zhur.ob.khim. 32 no.9:3039-3044 S '62. (MIRA 15:9)
(Amines) (Amides)

TEPLYAKOV, P.

The brigade carried out its pledge. Avt. transp. 38 no. 12:7-8 D '60. (MIRA 13:12)

1. Avtokhozyaystvo No. 10 Kuybyshevskogo avtotresta.
(Kuybyshev Province--Transportation, Automotive)

TEPLYAKOV, P. A.

Dissertation: "Effect of Concentration and Solvent on the Phosphorescence of Solutions of Aromatic Compounds at Low Temperature." Cand Phys Math Sci, Gorkiy State Pedagogical Inst, Gorky 1953.

W-30928

SO: Referativnyy Zhurnal, No. 5, Dec 1953, Moscow. AN USSR ([illegible])

APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R001755320002-6"

USSR/ Physical Chemistry - Molecule. Chemical bond B-4

Abs Jour : Referat Zhur - Khimiya, No 4, 1957, 10870

Author : Teplyakov P.A., Pyatnitskiy B.A.
Inst : Academy of Sciences USSR ; Gor'kiy State Pedagogical Inst im. M. Gor'kiy
Title : Effect of Concentration and Solvent on Phosphorescence of Aromatic Compounds at Low Temparature

Orig Pub : Izv. AN SSSR, ser. fiz., 1956, 20, No 5, 520-523

Abstract : At the temparature of liquid oxygen an investigation was made of phosphorescence attenuation and duration of metastable state of acids: benzoic (I), gallic (II), Cinnamic (III), salicylic (VI), p-aminobenzoic (V), anthranilic (VI), hydrocinnamic (VII), bromobenzoic (VIJI), phthalic (IX), sulfobenzoic (X), and of hydroquinone (XI), and resorcinol (XII) in alcohol, acetone, ether, water and CCl_4, depending on concentration (from 5.10^{-1} to 5.10^{-4} M). In the case of I - VI, XI and XII, there is observed in all the solvents at various concentrations and in crystalline state an exponential law of phosphorescence attenuation. In the case of solutions of some acids, deviations from the exponential law have been found to occur. For VII in alcohol and for VIII in alcohol, acetone, water and ether, the attenuation law can be

Card 1/2

Abs Jour : Referat Zhur - Khimiya, No 4, 1957, 10870

represented in the form of two exponents. In the case of solutions of III, IV and VII in alcohol there is a correlation between duration of metastable state and the concentration. Duration of the glow of the other substances in all the solvents remains constant within the entire investigated interval of concentrations, i.e., there is no concentration-induced attenuation at the metastable level.

21.3509

65721

SOV/139-59-2-20/30

AUTHOR: Teplyakov, P.A.

TITLE: The Low-Temperature Phosphorescence Spectra of Alcoholic Solutions of Substituted Benzoic Acids

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Fizika, 1959, Nr 2, pp 135-9 (USSR)

ABSTRACT: The compounds are p-aminobenzoic acid, anthranilic acid, o-bromobenzoic acid, p-bromobenzoic acid and sulphobenzoic acid; the data for the phosphorescence bands are given in that sequence in Tables 1 and 2. In each case the experimental wave-number of the line is given in the first column with the calculated wave-number in the second; the formula used for the calculation is given in the third column. Fig 1 illustrates the transition scheme for anthranilic acid; Fig 2 does the same for sulphobenzoic acid. Table 3 lists the various frequencies for the compounds; the sequence is as above, except that sulphobenzoic acid comes third instead of last. The temperature is not given. Only one concentration (not given) is used; the reader is referred to Ref 6 to 9 for details of concentration effects and

Card 1/2

The Low-Temperature Phosphorescence Spectra of Alcoholic Solutions of Substituted Benzoic Acids

techniques. The series obey the formulae given on p 139. There are 2 figures and 3 tables and 10 references, 8 of which are Soviet and 2 English.

ASSOCIATION: Odesskiy elektrotekhnicheskiy institut svyazi (Odessa Institute of Communication Engineering)

SUBMITTED: June 23, 1958, (initially)
November 20, 1958 (finally)

Card 2/2

TEPLYAKOV, P.A.

Effect of a solvent on the phosphorescence spectra of sulfobenzoic and bromobenzoic acids at a low temperature. Izv.vys. ucheb.zav.; fiz. no.3:102-106 '59. (MIRA 12:10)

1. Odesskiy elektrotekhnicheskiy institut svyazi.
(Benzoic acid--Spectra)

82334

S/139/60/000/03/014/045

94.3500

E032/E314

AUTHOR: Teplyakov, P.A.

TITLE: The Effect of Concentration on the Phosphorescence Spectra of Solutions of Sulphobenzoic Acid at Low Temperatures

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Fizika, 1960, Nr 3, pp 87 - 92 (USSR)

ABSTRACT: The phosphorescence spectra of sulphobenzoic acid in water, ionene and heptane were investigated at liquid-oxygen temperatures. Table 1 gives the position of the maxima of the phosphorescence bands for ionene solutions of sulphobenzoic acid of different concentrations. Table 2 gives the corresponding data for water and heptane. Figure 1 shows microphotograms of the phosphorescence of sulphobenzoic acid in ionene with the following concentrations: 0.1 M (Curve I), 0.5 M (Curve II) and 0.05 M (Curve III). Figures 2 and 3 give the corresponding results for water and heptane. The results are summarized as follows: 1) the phosphorescence spectra of sulphobenzoic acid in ionene, water and heptane at liquid oxygen temperatures have a vibrational structure and can be explained with the aid of a relatively small number of vibrations. 2) The form of the phosphorescence spectra of sulphobenzoic acid and the

Card1/2

82334
S/139/60/000/03/014/045
E032/E314

The Effect of Concentration on the Phosphorescence Spectra of Solutions of Sulphobenzoic Acid at Low Temperatures

number of band maxima is dependent on the nature of the solvent. 3) The form of the spectrum does not depend on the concentration. Concentration does, however, have an effect on the number of maxima and the total intensity of the phosphorescence. 4) As the concentration increases, the total initial intensity increases, as well as the number of the extreme short-wave and long-wave maxima. 5) The appearance of the most active C-C vibrations and the less active C-H vibrations appear to depend on the concentration. All the maxima can be described by the formula:

$$\nu = \nu_o - n_1\nu_1 - n_2\nu_8 - n_3\nu_9 - \nu_{9b}$$

where $\nu_1 = 983\ cm^{-1}$, $\nu_8 = 1600\ cm^{-1}$, $\nu_9 = 1187\ cm^{-1}$ and $\nu_{9b} = 312\ cm^{-1}$. Acknowledgments are expressed to B. A. Pyatnitskiy. There are 3 tables, 4 figures and 9 references, 8 of which are Soviet and 1 English.

ASSOCIATION: Odesskiy elektrotekhnicheskiy institut svyazi (Odessa Electrotechnical Institute of Communications)

SUBMITTED: May 18, 1959

Card2/2

TEPLYAKOV, P.A.; PYATNITSKIY, B.A.

Effect of the solvent and temperature on the phosphorescence spectra of phenanthrene. Izv.vys.ucheb.zav.; fiz. no.5:84-89 '61. (MIRA 14:10)

1. Odesskiy elektrotekhnicheskiy institut svyazi.
(Phenanthrene--Spectra)

TEPLYAKOV, P.A. [Tepliakov, P.O.]

Phosphorescence spectra of phenanthrene solutions. Ukr.fiz.zhur. 6 no.6:812-816 N-D '61. (MIRA 16:5)

1. Odesskoye vyssheye inzhenernoye morskoye uchilische.
(Phenanthrene—Spectra)

TEPLYAKOV, P.A. [Tepliakov, P.O.]; GROSUL, V.P. [Hrosul, V.P.]

Phosphorescence spectra of benzoic and sulfobenzoic acids in nonane. Ukr.fiz.zhur. 6 no.6:816-819 N-D '61. (MIRA 16:5)

1. Odesskoye vyssheye inzhenernoye morskoye uchilishche. (Benzoic acid—Spectra) (Nonane)

APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R001755320002-6"

APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R001755320002-6"

L 18255-63 EWP(j)/EPF(c)/EWP(q)/EWT(m)/BDS AFFTC/ASD/ESD-3 Pc-4/ Pr-4 RM/WW/JD

ACCESSION NR: AP3002123 S/0185/63/008/006/0684/0689

AUTHOR: Teplyakov, P. A.; Grosul V. P.

TITLE: Phosphorescence spectra of phenanthrene in heptane and in magnesium oxide

SOURCE: Ukrains'kyy fizychnyy zhurnal, v. 8, no. 6, 1963, 684-689

TOPIC TAGS: phosphorescence spectra, phosphorescence, phenanthrene phosphorescence, heptane, magnesium oxide, organic phosphor, metastable molecular level, Raman effect vibrational level, temperature effect.

ABSTRACT: Studies of the phosphorescence of phenanthrene in heptane at 77K and in magnesium oxide at 77 and 290K are reported. Spectra were taken with an ISP-51 spectrograph and recorded with an MF-4 microphotometer. At low temperatures the spectrum was of a quasi-linear character. Two metastable levels were established for phenanthrene phosphorescence in heptane; their energies were determined, and for each of these pairs of levels a vibration structure was determined in accordance with the Raman effect. The main vibration of 830 cm^{-1} is characteristic of the passage of phenanthrene from the higher to the normal metastable level. The most characteristic vibration for the phenanthrene molecule for the transition

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L 18255-63

ACCESSION NR: AP3002123

from the lower to normal level is at 406 cm^{-1}. Comparing the phenanthrene phosphorescence spectra in magnesium oxide at low and room temperatures, it is found that, at higher temperatures, the maximum spectral bands lie in the lower frequency region. Orig. art. has: 2 figures and 2 tables.

ASSOCIATION: Vy*shcha Inzhenerna Mors'ka Uchy*ly*shche, Odessa (High Engineering Maritime School)

SUBMITTED: 12 Nov 62 DATE ACQ: 12 Jul 63 ENCL: 00

SUB CODE: PH NO REF SOV: 010 OTHER: 001

Card 2/2

TRUSOV, V.V.; TEPLAKOV, P.A. [Teplakov, P.O.]

Phosphorescence spectra and vibrational structure of carbazole molecules. Ukr. fiz. zhur. 8 no.9:1008-1012 S '63. (MIRA 17:8)

1. Odesskoye vysshaye inzhenernoye morskoye uchilishche.

TRUSOV, V.V.; TEPLYAKOV, P.A. [Tepliakov, P.O.]

Phosphorescence spectra of acenaphthene and biphenyl. Ukr. fiz. zhur. 8 no.12:1353-1357 D '63. (MIRA 17:4)

1. Odesskoye vyssheye inzhenerno-morskoye uchilishche.

TEPLYAKOV, P.A.

Quasi-line phosphorescence spectra of phenanthrene solutions. (MIRA 16:12)
Opt. i spektr. 15 no.5:645-650 N '63.

TEPLYAKOV, P.A.

Phosphorescence spectra of phenanthrene solutions. Izv. vys. ucheb. zav.; fiz. no.5:156-161 '64. (MIRA 17:11)

1. Odesskoye vyssheye inzhenernoye morskoye uchilishche.

TEPLYAKOV, P.A. [Teplinkov, P.O.]; TRUSOV, V.V.

Phosphorescence spectra of fluorene in heptane and hexane. (MIRA 17:9)
Ukr. fiz. zhur. 8 no.11:1230-1232 N '64.

1. Odesskoye vysshoye inzhenernoye morskoye uchilishche.

TRUSOV, V.V.; TEPLYAKOV, P.A. [Tepliakov, P.O.]

Quasi-line phosphorescence spectra of diphenyl oxide solutions with an addition of fluorene. Ukr. fiz. zhur. 9 no.8:917-920 Ag '64. (MIRA 17:11)

1. Odesskoye vysshoye inzhenernoye morskoye uchilishche.

TRUSOV, V.V.; TEPLYAKOV, P.A.

Phosphorescence spectra of diphenyl, fluorene, acenaphthene, and carbazole. Opt. i spektr. 16 no.1:52-57 Ja '64. (MIRA 17:3)

TEPLYAKOV, P.A.; TRUSOV, V.V.

Phosphorescence spectra of frozen fluorene solutions. Izv. vys. ucheb. zav.; fiz. 8 no.2:125-128 '65. (MIRA 18:7)

1. Odesskoye vysshoye inzhenernoye morskoye uchilishche.

TEPLYAKOV, P.A.; TRUSOV, V.V.

Phosphorescence spectra of acenaphthene, diphenyl, and carbazole. Izv. vys. ucheb. zav.; fiz. 8 no.3:69-75 '65. (MIRA 18:9)

1. Odesskoye vysshoye inzhenernoye morskoye uchilishche.

TEPLYAKOV, P.A. [Tepliakov, P.O.]; TRUSOV, V.V.

Phosphorescence spectra of aromatic hydrocarbons in the crystalline state and in dicarboxylic acid. Ukr. fiz. zhur. 10 no.6:645-652 Je '65. (MIRA 18:7)

1. Odesskoye vyssheye inzhenerno-morskoye uchilishche.

L 1920-66 EWT(1)/EWT(m)/EPF(c)/EWP(j) IJP(c) RM

ACCESSION NR: AP5024131 UR/0185/65/010/009/1019/1024

AUTHOR: Mykhaylenko, V. I. (Mikhaylenko, V. I.); Teplyakov, P. O. (Teplyakov, P. A.); Trusov, V. V. 44,55

TITLE: Luminescence spectra of toluene and stilbene solutions at 77K 21,44,55

SOURCE: Ukrayins'kyy fizychnyy zhurnal, v. 10, no. 9, 1965, 1019-1024

TOPIC TAGS: toluene, luminescence spectrum, combination scattering

ABSTRACT: The present authors investigate the luminescence spectra of toluene and stilbene at 77K in various normal paraffins, in alcohol, and in azelaic acid. Results are presented in the form of comprehensive spectral tables. The luminescence spectra of toluene (D_{2h}) shows a most pronounced structure in nonane; the interpretation was carried out by means of the 250, 380, 535, 700, 995, 1140, 1242, 1390, 1490, 1595, 2225 cm^{-1} in excellent agreement with the frequencies of combination scattering of toluene. The triplet and singlet levels of toluene molecules belong to the B_{3u} type of symmetry. The stilbene fluorescence contained the 210, 630, 841, 998, 1195, 1320, 1430, 1597, 1637 cm^{-1} frequencies. Singlet stilbene molecules (C_{2h}) have an A_u or B_u symmetry. Results thus show that toluene and stilbene molecules are deformed in normal paraffins and that the structure of

Card 1/2

L 1920-66

ACCESSION NR: AP5024131

their luminescent spectra are essentially different. Orig. art. has: 2 formulas and 3 tables.

ASSOCIATION: Odes'ke vyshche inzhenerne mors'ke uchylyshche (Odessa Higher Maritime Engineering School) 44,55

SUBMITTED: 25Sep64 ENCL: 00 SUB CODE: OC, GC, OP

NO REF SOV: 012 OTHER: 001

Card 2/2

TEPLYAKOV, P.A. [Tepliakov, P.O.]; MIKHAYLENKO, V.I. [Mykhailenko, V.I.]; TRUSOV, V.V.

Quasi-line phosphorescence spectra of aromatic hydrocarbons in ether. Ukr. fiz. zhur. 10 no. 11:1209-1214 N '65.
(MIRA 18:12)

1. Odesskoye vysshaya inzhenerno-morskoye uchilishche. Submitted December 16, 1964.

APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R001755320002-6"

APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R001755320002-6"

L 15567-66 EWT(1)/EWT(m)/EWP(j) IJP(c) RM
ACC NR: AP6004405 SOURCE CODE: UR/0051/66/020/001/0058/0064

AUTHOR: Mikhaylenko, V. I.; Teplyakov, P. A.; Trusov, V. V.; Martynchenko, V. M.

ORG: none

34
B

TITLE: Vibrational structure of the luminescence spectra for frozen solutions of naphthalene and tolan

SOURCE: Optika i spektroskopiya, v. 20, no. 1, 1966, 58-64

TOPIC TAGS: luminescence spectrum, naphthalene, molecular physics

ABSTRACT: The authors study the fluorescence and phosphorescence spectra of tolan in nonane as well as the phosphorescence spectra of naphthalene in pentane, hexane and heptane. The excitation source was radiation from a mercury lamp passed through a quartz monochromator. The error in measurements of the spectral frequencies was 10-15 cm^{-1}. The phosphorescence spectra for naphthalene in the solvent mentioned above begin with a very strong line at 21270 cm^{-1} which agrees satisfactorily with the experimental data of other authors. The strong intensity of the line corresponding to the nonvibrational $T \rightarrow S$ transition implies that this transition is allowed

Card 1/2 UDC: 535.37

L 15567-66
ACC NR: AP6004405

by the selection rules imposed by molecular symmetry (although exclusion with respect to spin remains in force). The difference in structure for the fluorescence and phosphorescence spectra of naphthalene solutions indicates that there is a difference in the types of symmetry for the first excitation singlet and triplet levels. On the other hand the structure of the fluorescence and phosphorescence spectra for solutions of tolan and nonane at 77°K are completely identical. The experimental data show that the symmetry of the triplet and first excited singlet level for tolan molecules is B_{3u}. B_{1u} symmetry is characteristic of the phosphorescence level for the naphthalene molecule. Orig. art. has: 3 tables, 1 formula.

SUB CODE: 20/ SUBM DATE: 03Nov64/ ORIG REF: 012/ OTH REF: 015

Card 2/2 mc

L01252-66

ACCESSION NR: AP5020814 UR/0048/65/029/008/1419/1421

AUTHOR: Teplyakov, P. A.; Trusov, V. V.; Mikhaylenko, V. I.; Martynchenko, V. M.

TITLE: Influence of the solvent on the luminescence spectra of diphenylene oxide and diphenylacetylene /Report, 13th Conference on Luminescence held in Khar'kov 25 June to 1 July 1964/

SOURCE: AN SSSR. Izvestiya. Seriya fizicheskaya, v. 29, no. 8, 1965, 1419-1421, and insert facing p. 1409

TOPIC TAGS: luminescence spectrum, fluorescence spectrum, line spectrum, solution property, organic compound, vibration frequency

ABSTRACT: In order to investigate the influence of the solvent on quasi-line (phonon free) luminescence spectra, the authors have examined the fluorescence and phosphorescence spectra of diphenylene oxide and diphenylacetylene in n-hexane, n-heptane, n-octane, n-nonane, ethyl alcohol, ether, glutaric acid, and azelaic acid at 77°K. The phosphorescence spectra were recorded with an apparatus that has been described elsewhere (V.V.Trusov and P.A.Teplyakov, Optika i spektroskopiya, 16, 52, 1964). The fluorescence spectra were excited by a group of mercury lines isolated with a quarts monochromator. The phosphorescence spectra of both

Card 1/2

L01252-66
ACCESSION NR: AP5020814

luminophors showed quasi-lines in all the solvents except glutaric acid; in this solvent the diphenylene oxide spectrum had 15 lines and the diphenylactylene spectrum had none. The most structured diphenylene oxide spectrum was that in heptane (89 lines between 405 and 460 millimicron) and the most structured diphenylacetylene spectrum was that in nonane (36 lines). The fluorescence spectra also consist of quasi-lines, but they were less sharp than in the phosphorescence spectra. The diphenyl oxide spectrum was analyzed in terms of 16 vibrational frequencies that have been found in the combination scattering spectrum by P.Doncelot and M. Chaix (Compt. rend., 202, 851, 1936). The diphenylacetylene spectrum was analyzed in terms of 11 vibrational frequencies that are in good agreement with the frequencies found in the Raman and infrared spectra by I.N.Khalimonova (Optika i spektroskopiya, 14, 639, 1963). Orig. art. has: 1 figure and 1 table.

ASSOCIATION: Odesskoye vyssheye inzhenernoye morskoye ychilishche (Odessa Naval Engineering College)

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L 01270-66 EWT(1)/EPA(s)-2/EWT(m)/EPF(c)/EWP(j) IJP(c) RM

ACCESSION NR: AP5020815 UR/0048/65/029/008/1422/1424

AUTHOR: Mikhaylenko, V. I.; Teplyakov, P. A.; Trusov, V. V.; Teplyakov, V. A.

TITLE: Vibrational structure of the spectra of organic molecules with D_{2h} symmetry /Report, 13th Conference on Luminescence held in Kyar'kov 25 June to 1 July 1964/

SOURCE: AN SSSR. Izvestiya. Seriya fizicheskaya, v. 29, no. 8, 1965, 1422-1424

TOPIC TAGS: luminescence spectrum, phosphorescence spectrum, line spectrum, solution property, vibration spectrum, molecular vibration, molecular symmetry, selection rule, organic compound

ABSTRACT: The authors discuss data in the literature on the quasi-line luminescence spectra of diphenyl, diphenylacetylene, and stilbene in normal paraffin solvents in order to determine the extent to which the vibrational selection rules due to the molecular symmetry are violated. Diphenyl has D_{2h} symmetry. From a discussion of the quasi-line phosphorescence spectrum it is concluded that only the single electron transition B_{2u}-A_{1g} is active in the phosphorescence spectrum and that the selection rules are rigorously satisfied. Diphenylacetylene also has D_{2h} symmetry. Best agreement with the experimental data was obtained with the assumption that the symmetry of the triplet level is B_{3u}. If this assumption is correct there is only

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one weak forbidden b_{3g} vibration evinced in the phosphorescence spectrum. This violation of the selection rule is ascribed to distortion of the molecule when the solution is frozen. Stilbene does not have D_{2h} symmetry, but its spectrum is nevertheless analyzed in terms of the D_{2h} group. This procedure is justified by the close similarity between the stilbene and diphenylacetylene molecules. If the first excited singlet level of stilbene has $^1B_{3u}$ symmetry, there is only a single forbidden b_{3g} vibration evinced in the luminescence spectrum. The violation of the selection rule is again ascribed to deformation of the molecule, and it is conjectured that this deformation consists of a change in the angle between the double and single bonds with the result that the molecule assumes C_{2h} symmetry. The authors close with a brief quotation from E.V.Shpol'skiy to the effect that group theory is useful, among other things, for detecting and analyzing minute molecular deformations. Orig. art. has: 1 table.

ASSOCIATION: Odesskoye vyssheye inzhenernoye morskoye uchilishche (Odessa Naval Engineering College)

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NO REF SOV: 010 OTHER: 004

Card 2/2

ISAYEV, Mikhail Porfir'yevich; ZABELIN, Vladimir Andreyevich; FISHER, S.Ya., red.; TEPLYAKOV, S.M., red.; YASHIN, P.M., red.; VORONTSOVA, Z.Z., tekhn. red.

[The IZh-56" and "IZh-IUpiter" motorcycles; construction, maintenance and driving] Mototsikly "IZh-56" i "IZh-IUpiter"; ustroistvo, ukhod i obsluzhivanie. Pod obshchei red. S.IA. Fishera i S.M.Tepliakova. Izhevsk, Udmurtskoe knizhnoe izd-vo, 1961. 207 p. (MIRA 15:3)

(Motorcycles)

KAPTSAN, O.L.; TEPLYAKOV, V.A.

High-frequency titration. Zhur. Anal. Khim. 8, 131-9 '53. (MLRA 6:5)
(CA 47 no.20:10397 '53)

1. V.I.Vernadskiy Inst. of Geochem. and Anal. Chem., Acad. Sci. U.S.S.R., Moscow.

TEPLYAKOV, V. A.

Category : USSR/Radiophysics - Radiation of Radio Waves. Antennas I-5

Abs Jour : Ref Zhur - Fizika, No 2, 1957, No 4528

Author : Teplyakov, V.A., Shembel', B.K.
Title : Equation for the Frequency of a Toroidal Resonator

Orig Pub : Radiotekhn. i elektronika, 1956, 1, No 4, 443-446

Abstract : Measurement results are used to obtain a simple empirical equation for the calculation of the resonant wavelength λ of a toroidal resonator, the error being not more than 5%: $\lambda = 1.31\, D\,(1 + \Delta)$, where D is the diameter of the resonator, and $\Delta = 0.64 - 1.7\, b/h + 2.11 \log\left(\frac{2d+b}{D}\right)$. Here b is the distance between the bottom and the rod of the cavity, h the length of the cavity, and d the diameter of the rod. The equation is valid for $\Delta \leq 0.8$ and $d/D < 0.1$.

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21,2200 S/120/60/000/02/043/052
E032/E314

AUTHORS: Organov, I.V. and Teplyakov, V.A.

TITLE: A 50 kV Ion Tube

PERIODICAL: Pribory i tekhnika eksperimenta, 1960, No 2, pp 150 - 152 (USSR)

ABSTRACT: The ion tube is shown in Figure 1. It incorporates only two vacuum joints, namely, one teflon (11) and one rubber (6). The latter also act as insulators between the anode 14 and the intermediate electrode 1 and between the intermediate electrode and the cathode flange 3 , respectively. The intermediate electrode 1 and the anode 14 are made from armco iron and form the magnetic circuit of the source. One of its gaps, i.e. the working gap, is 5.5 mm thick, while the other gap contains an insulating material 9 , which is o.2 mm thick. The intermediate electrode is water-cooled (35). The anode 14 is

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A 50 kV Ion Tube

cooled by a copper insert containing an additional channel through which gas can be passed. In order to prevent the evaporation of the anode, there is a special replaceable insert 33 made of heat-resistant material and having an aperture of 1.2 mm in diameter. The insert is kept in position by the ring 32 . The cathode is in the form of a bifilar tungsten thread, 0.8 mm in diameter, which is spot-welded to the holders 4 . One of the holders is fixed to the cathode flange 3 and the other to the lead 5 , which is fixed in the cathode flange. The source is adjusted by the centering ring 12 . The electrostatic lens is demountable. The outer electrodes 24 and 26 are earthed and are supported by three rods 23 and the ring 19 . The intermediate electrode 25 is supplied by the lead 15 . All the insulators are specially screened (20, 21, 28, 31). The extracting electrode 26 contains a permanent magnet 30 in order to reduce the heating of the insert 33 by secondary electrons. The distance between the electrodes and the source and the extracting electrode can be adjusted.

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A 50 kV Ion Tube

The main electromagnet is at 10 . The device has been used to produce an ion beam of 21 mA with an arc current of 1.6 A, magnetic-field strength in the gap of the source of 3 kOe and an extracting voltage of 46 kV. The diameter of the beam was ~ 12 mm. In the case of hydrogen the composition of the beam was as follows:

H_1^+ - 33%, H_2^+ - 44%, H_3^+ - 21%,

N_2^+, O_2^+ etc. - 2% .

The source has been used continuously for 9 hours at a time without deterioration in its working characteristics. Acknowledgments are made to S.N. Popov and D.V. Karetnikov for assistance in this work. There are 2 figures and 6 references, 2 of which are German and 4 Soviet.

ASSOCIATION: Institut khimicheskoy fiziki AN SSSR (Institute of Chemical Physics of the Ac.Sc., USSR)

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